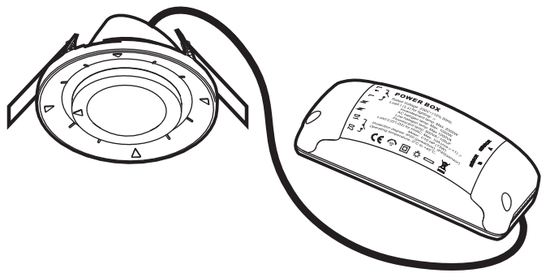
Schneider Electric

USER MANUAL
**Flush Mount Dual-Load 360º PIR Motion Sensor**

CAT. NO.
SAE-UE-MS-CDBWE

# ELECTRONIC ACCESSORIES



## TECHNICAL SPECIFICATIONS

| | |
|---|---|
| Rated Voltage | 230V~±10% 50Hz |
| Load | SAE-UE-MS-CDBWE (2Channels) : μ<br>Load Ⅰ ( L↓ ) for Lighting:<br>Incandescent lamp: max. 2000W<br>AC halogen lamp : max. 1000W<br>LV halogen lamp : max. 1000VA<br>Fluorescent lamp : max. 900VA/100μF (compensated)<br>Load Ⅱ (D1-D2) for HVAC:<br>Potential free contact:<br>Max. 5A (cosφ=1) for 250VAC or 30VDC<br>Motor: 1/10HP (approx.73W) |
| Auto off Timer Adjustment | SAE-UE-MS-CDBWE :<br>Time1 (for lighting): Adjustable from 5secs to 20mins, plus test & ⎍ mode<br>Time2 (for HVAC) : Adjustable from 10secs to 60mins |
| Lux Adjustment | Adjustable from 10Lux to 2000Lux |
| Meter Adjustment | Adjustable from approx. Φ1m ("-") to approx. Φ7m ("+") at height of 2.5m |
| Detection Range | 360°circular, Φ7m at height of 2.5m |
| RJ-12 plug | 1m signal cable |
| Operating Temperature | 0°C to +45°C |
| Environmental Protection | Detector : IP40<br>Power box : IP20 |

All procedures indicated in this manual must be carried out by a professional installer

# 1 PACKAGE CONTENTS

| Pattern | | | |
|---|---|---|---|
| Item | Detector | Power box | SAE-UE-MS-IR-WE (optional purchase) |
| Quantity | 1 | | 1 |

# 2 PRODUCT DESCRIPTION

## 2.1 Features

SAE-UE-MS-CDBWE is a ceiling flush mount presence detector for indoor application in small-scale office and home such as conference room, garage, kitchen, dining room etc. for lighting and HVAC automatic control. The adjustment of time and Lux value can be set either by its knobs or SAE-UE-MS-IR-WE IR remote controller.

- SAE-UE-MS-CDBWE has two relays for outputs load Ⅰ and load Ⅱ : load Ⅰ is for lighting control and load Ⅱ is potential free for HVAC control (Heating, Ventilation, Air Conditioning) etc.
- Easy installation in different thickness of ceiling boards.
- Omni-directional detector integrated with the unique lens provides "No dead spot" zones and superior sensitivity for every spot zone in its 360º detection range. The detection beams are distributed and well-concentrated over the detection range, which enable it to detect the smallest movement.
- RJ-12 plug and socket for quick & easy connection.
- Built-in red LED is used as an indicator for IR setting and easy test operation.

## 2.2 Dimension (See FIG.1-A & FIG.1-B)

Detector: Φ80 x 52mm

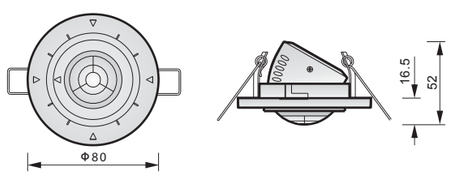



FIG.1-A

Power box: 124 x 58 x 37.6mm

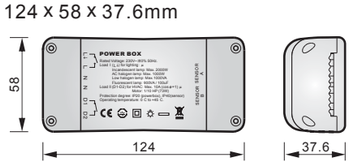



FIG.1-B

# 3 INSTALLATION AND WIRING

Please disconnect power completely and read the entire instruction manual carefully before installation

## 3.1 Proper Location

3.1.1 It is recommended to install at the height of 2.5m, and the detection range can reach up to 7m of diameter. (See FIG.2)

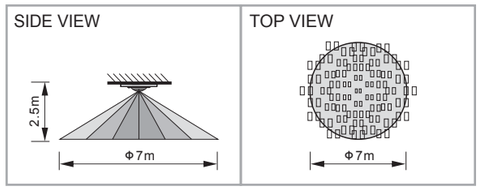



FIG.2

3.1.2 Helpful tips for installation

Since the detector is responding to temperature change, please avoid the following conditions (See FIG.3):

- The detector aiming towards the objects whose surfaces are highly reflective, such as mirror, monitor, etc.
- The detector aiming towards the objects may be swayed in the wind, such as curtain, tall plants, miniature garden, etc.
- Mounting the detector near heat sources, such as heating vents, air conditionings, vents as dryers, lights, etc.

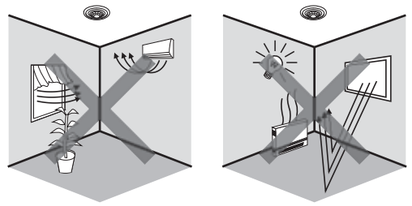


FIG.3

## 3.2 Wiring Diagrams

3.2.1.SAE-UE-MS-CDBWE for standard application (See FIG.4).

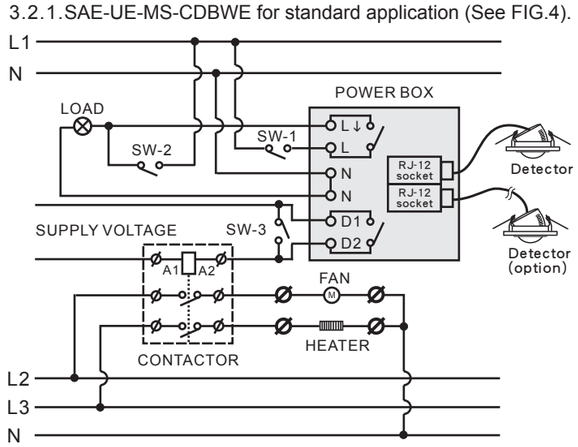



FIG.4

3.2.2 SAE-UE-MS-CDBWE controls staircase timer (See FIG.5).

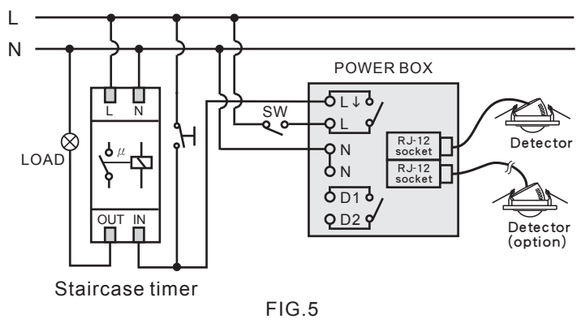



FIG.5

## 3.3 Installation Procedure

3.3.1 To install the detector, please drill a hole with a diameter of 65mm on movable ceiling board and keep the power cable outside. Please strip off 6-8mm of cable sheathing for wiring (See FIG.6).

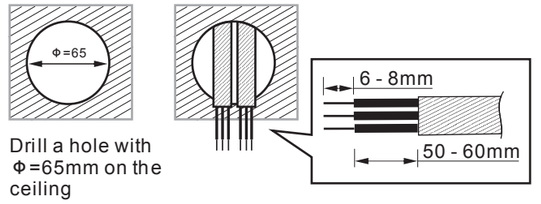



FIG.6

3.3.2 Unscrew protection cover on power box with screwdriver. RJ-12 sockets are for detectors connection and terminals are for power and load, then put the protection cover back and screw it tightly (See FIG.7).

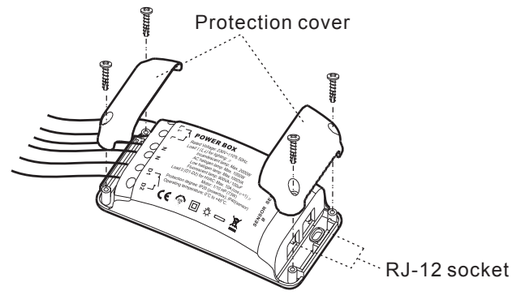



FIG.7

- Knock-outs on protection cover is for cables entry. Please refer to following illustration for application.
- No knock-out is used: Φ0.8 - Φ1.8mm (See FIG.8A)
- Knock-out on protection cover is used: Φ9 - Φ11mm (See FIG.8B)

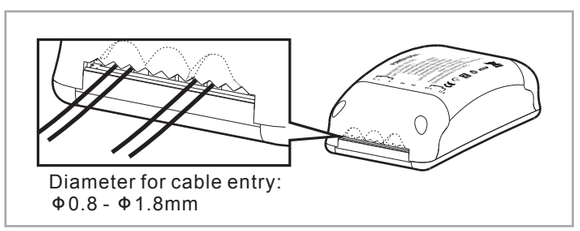
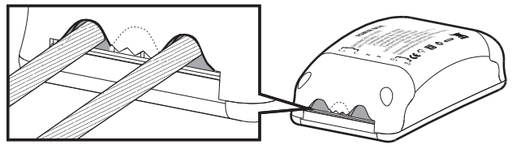



FIG.8A



Diameter for cable entry:
Φ9 - Φ11mm

FIG.8B

3.3.3 Feed cables through the ceiling and refer to wiring diagram to connect cables, then insert power box into ceiling through the drilled hole (See FIG.9).

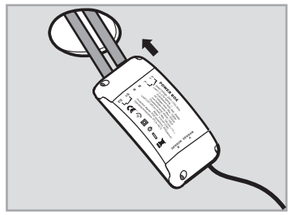


FIG.9

3.3.4 Put detector's two spring clips into the drilled hole, then insert detector upwards (See FIG.10).

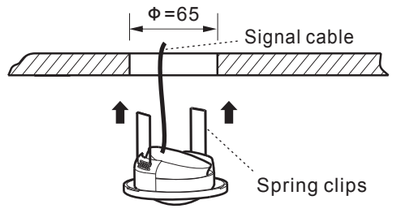



FIG.10

**NOTE**

- Adjust detector's position and assure bottom of detector stuck firmly on ceiling (See FIG.11).
- Recheck and wipe slightly with a clean and dry cloth if detector surface is dirty.

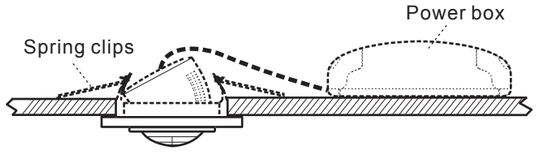



FIG.11

3.3.5 Restore power.

# 4 OPERATION AND FUNCTION

## 4.1 Time, Lux, Meter knob

Following marked values (excepting test and ⎍1S⎍) are only for reference. You can adjust the knobs at any position you desired (See FIG.12).

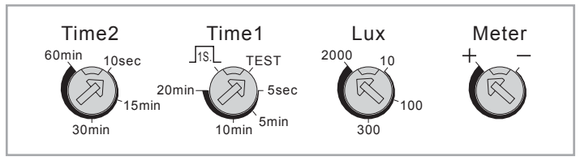



FIG. 12

### 4.1.1 Time knob setting

Time 1: Adjustable from 5secs to 20mins.
Time 2: Adjustable from 10secs to 60mins.

### 4.1.2 Lux knob setting

Lux value is adjustable from approx. 10Lux to 2000Lux.

Set Lux knob at 10Lux for the minimum Lux value, SAE-UE-MS-CDBWE can work at dark status only.

Set Lux knob at 2000Lux for the maximum Lux value, SAE-UE-MS-CDBWE can be triggered at any light level.

### 4.1.3 Meter knob setting

Set meter knob value at "-" for the smallest "field of view".
Set meter knob value at "+" for the largest "field of view".
Set meter knob value at the position between "-" and "+" for "desired field of view".

## 4.2 Test Mode

### 4.2.1 LED function

There is a built-in red LED as an indicator for infrared signal reception and test mode status (See FIG.13).

LED can be used as an indicator in walk test (refer to 4.2.2) and load does not need to be connected.

In case the SAE-UE-MS-IR-WE IR remote controller is used, the sensor receives signal from it, then red LED will flash 2secs quicky to indicate successful signal reception.

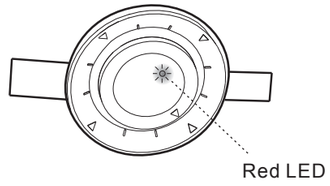



FIG.13

### 4.2.2 Walk test

The purpose of walk test is to select a proper installation place to get the optimal detection range. Set meter knob at "+", time1 knob at "TEST" (refer to step 4.1), then you can conduct a walk test and the detector is uncontrolled by Lux (See FIG.14).

**NOTE**

When the power is connected for the first time or it is resupplied after shutting off, the detector will enter into 60secs warm up mode. During which, LED and the load can be switched on for 60secs regardless of the time knob of detector is set to any modes, and then off. After warming up is finished, the mode selected will be active auto-matically.

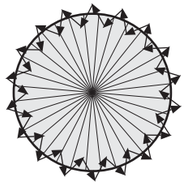


FIG.14

### Test Procedure

1. Tester must be within the detection coverage.
2. Switch on the power.
3. Walk from outside across to the detection range. Once the detector is triggered, red LED will turn on for 2secs.
4. Adjust the detector detection angle to change coverage.
5. Adjust meter knob to change coverage.
6. Repeat step 4 to 5 until it meets user's demands.

### 4.2.3 Adjust detector head

The detector head can be pulled down 30° and rotated clockwise or anti-clockwise in range of 350° (See FIG.15).
Pull out the detector head with a small screwdriver (See FIG.16).

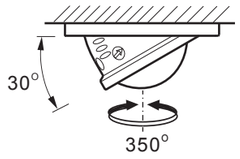



FIG.15

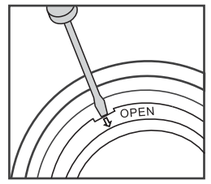



FIG.16

4.2.4 The arrowhead on the detector head had been set to be pointed one arrowhead before ex-factory. The detector head can be clockwise or anti-clockwise rotated in the range of 350°. Each scale stands for 30°. (See FIG.17A & FIG.17B).

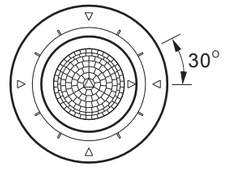



FIG.17A

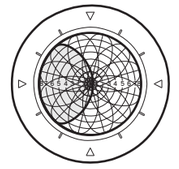


FIG.17B

4.2.5 The detector head can be vertically pulled 30° downward, the different detection range can be obtained by setting the detector head at 0°, 10°, 20° and 30° respectively. (Each scale stands for 5°) (See FIG.18A & FIG.18B).

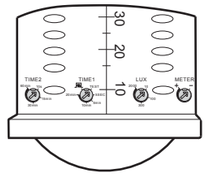



FIG.18A

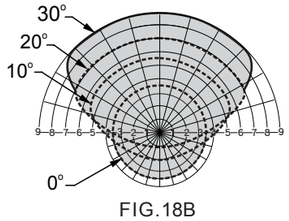



FIG.18B

# 5 TROUBLE SHOOTING

When SAE-UE-MS-CDBWE works abnormally, check assumptive problems and suggested solutions in following table that will hopefully to solve your problem.

| PROBLEM | POSSIBLE CAUSE | SUGGESTED SOLUTION |
|---|---|---|
| Lighting device does not turn on | 1. Power does not turn on.<br>2. Incorrect wiring.<br>3. Improper knob setting.<br>4. Malfunctioned load. | 1. Switch on the power.<br>2. Refer to wiring diagrams (FIG.4 to FIG.6) and check if the load is malfunctioned.<br>3. Check if knobs are set to the correct position, then supply the power to check if the LED will turn on.<br>4. Replace the disabled load with a new one. |
| Lighting device does not turn off | 1. Incorrect time setting.<br>2. Detector is nuisance triggered.<br>3. Incorrect wiring. | 1. To test the delay time specified on either Time1 or Time2 knob and check detector is nuisance triggered if lighting device does not turn off as the delay time is reached.<br>2. Keep away from detection coverage to avoid activating sensor while doing the test.<br>3. Make sure load and wires are connected correctly. |
| LED does not turn on | 1. Out of the detection range.<br>2. No power supplied.<br>3. "Time" knob setting isn't on "TEST".<br>4. Incorrect wiring. | 1. Walk within the effective detection range (Φ7m).<br>2. Switch on the power.<br>3. Turn the knob position to "TEST".<br>4. Refer to wiring diagrams (FIG4) |
| Nuisance triggering | There are heat sources, highly reflective objects or any objects which may be swayed in the wind within the detection coverage. | Avoid aiming the detector toward any heat sources, such as air conditioners, electric fans, heaters or any highly reflective surfaces. Make sure there are no swaying objects within the detection coverage. |

# 6 OPTIONAL PURCHASE UNIT

SAE-UE-MS-CDBWE can also be controlled by the IR remote controller SAE-UE-MS-IR-WE to make the operation easier and more convenient (See FIG.19).

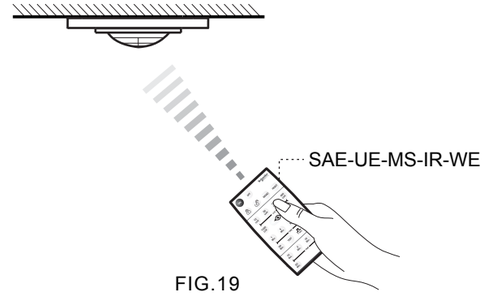



FIG.19